PROGRESS

OF

MEDICAL SCIENCE.

MEDICINE.

UNDER THE CHARGE OF
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An Axillary Diastolic Murmur in Aortic Insufficiency.—R. COLE and A. B. CECIL (*Johns Hopkins Hosp. Bull.*, 1908, xix, 353) note that previous work has shown that the point of maximum intensity of the aortic diastolic murmur is not constant, but varies under different conditions, most authorities placing it in the third and fourth interspace to the left of the sternum and near its margin. Cole and Cecil having noticed the frequency of a diastolic murmur at the apex and in the axilla made a careful study in a number of cases of aortic insufficiency as regards these points of transmission. In all but 2 of 17 cases examined the diastolic murmur was heard outside the apex in the axilla. At times the murmur in the axilla may be of secondary or even, as in 2 cases of maximum intensity, that is, in passing from the point of maximum intensity close to the sternal border, the murmur diminishes in intensity as the apex is reached and then becomes louder in the axilla. Cole and Cecil think that this axillary murmur is of exactly the same kind and quality as that heard at the base; and that inasmuch as it is easily traceable by careful study with a mapping out of the distribution of the aortic diastolic murmur, it cannot be a Flint murmur or a true stenotic murmur transmitted out into the axilla. For this murmur they suggest the term "aortic axillary diastolic" murmur.

Paralysis of the Left Auricle in Mitral Lesions.—JOACHIM (*Deut. med. Woch.*, 1908, xxxiv, 2207) calls attention to the fact that the presystolic murmur of mitral stenosis or the presystolic intensification of a diastolic murmur often disappears when compensation is lost. He has studied the action of the left auricle in four such cases by means of an œsophageal balloon connected with a tambour. In the tracings which were obtained, Joachim finds no evidence of any auricular contraction. He therefore believes there is a paralysis of the auricle, thus proving Mackenzie's explanation of the disappearance of the presystolic murmur to be correct. His work confirms that of Rautenberg.

The Contrast in the Excretion of Chlorine in Influenzal Pneumonia and in Ordinary Acute Lobar Pneumonia.—L. G. ROWNTREE (*Johns Hopkins Hosp. Bull.*, 1908, xix, 367) notes that the retention of chlorine in cases of influenzal pneumonia is not nearly so marked as is usually the case in acute lobar pneumonia. Uncomplicated influenzal pneumonia may show a normal daily excretion of chlorine, and if reduced, the reduction may not be very great and does not remain low. There is a tendency for the amount of chlorine in 10 c.c. of urine and the total daily output of chlorine to run more or less parallel in their fluctuations. The quantity of urine during the course of an influenzal pneumonia is not greatly diminished, but shows a slight tendency to decrease in quantity during convalescence, while the amount of chlorine may be steadily increased to normal. In influenzal pneumonia a large quantity of urine is not usually associated with a markedly low amount of chlorine in 10 c.c. of urine, as is usually the case in ordinary lobar pneumonia.

A New Sign for the Detection of Malingering and Functional Paresis of the Lower Extremities.—C. F. HOOVER (*Jour. Amer. Med. Assoc.*, 1908, li, 748) asserts that as this sign of "complimental opposition" depends on a normal function always exhibited in healthy persons and invariably present in the sound leg by patients suffering from hemiplegia or paresis of the other, due to some pathological lesion, it is of some importance and of very broad application. The sign is as follows: If a normal individual lying in a dorsal position on a couch be asked to lift one foot with the leg extended, the heel of the other foot will be observed to dig or press into the couch and the extent of pressure may be determined by placing the hand under the tendo Achillis of that side; thus the heel of one foot is employed to fix a point of opposition against the couch during the effort at lifting the other leg; this always occurs if a healthy person makes a free and uninhibited effort to raise the leg. In the reverse order the same principle holds true, for if a person is requested to press the foot or leg against the couch there will be a counter lifting force in the other leg. In patients with hemiglegia or monoplegia of one leg, in attempting to elevate the extended and paralytic leg from the couch the normal foot exhibits the same sign, as above, whether there is any voluntary muscular strength exhibited or not in the affected side. On lifting the normal leg against resistance, however, he will exhibit an opposition with the paralytic leg directly proportional to the voluntary muscular strength he is able to employ when a display of voluntary muscular power in the paralytic leg is exacted. Hoover has found this sign present in a large number of hemiplegic patients, and reports four instances of supposed paresis in malingerers and hysterical subjects, with a quick disproof of their supposed affection by this sign. In these cases it is important that the person examined be unfamiliar with the test and that his attention fixed on the paralytic leg so that no voluntary cerebral inhibition on his part may interfere with the test.

Working with this same sign, J. LEHERMITTE (*Sem. méd.*, 1908, xxviii, 565) reports upon its use in a number of cases of organic hemiplegia and confirms Hoover's assertions. He thinks that the sign throws much light on the mechanism of hysterical paralysis, as the feeling of the movements of the muscles by the hand under the leg, even in those cases incapable of any volitional movement, shows that in hysteria the subconscious movements are retained unimpaired, while those under control of the will only are suspended. The mechanism of hysterical paralysis is of a different order from that of organic paralysis and in the first the trouble is not the consequence of a functional disorder limited to a definite anatomical system, but is the result of a psychic disturbance, and thus is essentially the creation of the mind. He thinks this sign is due to a natural subconscious effort to maintain static symmetry in the pelvis as the leg is lifted. The digging of the leg into the couch does not help to lift the leg, but helps to maintain this balance.

Alimentary Galactosuria in Icterus.—BAUER (*Deut. med. Woch.*, 1908, xxxiv, 1505) published observations on alimentary galactosuria in normal individuals and in many diseased conditions, showing that galactosuria is present very frequently in cases of cirrhosis of the liver. His experiments have been continued in jaundiced patients. He gives 40 grams of galactose in 400 to 500 c.c. of tea early in the morning on the fasting stomach, and then estimates quantitatively the amount of galactose which reappears in the urine. He finds that alimentary galactosuria is a constant symptom of catarrhal jaundice and cirrhosis of the liver, while in normal individuals and a great variety of diseases it is lacking. In jaundice due to gallstones and to malignant disease, it is usually absent, and when present, is very slight. Because of the difficulty of diagnosis and prognosis in many cases of jaundice the method may be of value.

The Increase of the Gastric Secretion during Menstruation.—WOLPE (*Deut. med. Woch.*, 1908, xxxiv, 2208) has made a comparative study of the gastric juice during and after menstruation in a variety of stomach diseases and in normal individuals, and has obtained the following results: (1) At the time of menstruation the free hydrochloric acid and total acidity of the gastric juice are increased. (2) The secretory activity of the stomach is also stimulated and more gastric juice is produced than normally. In many cases in which hypersecretion already existed a true gastrosuccorrhœa ensues temporarily. (3) The motor power of the stomach is considerably lessened during menstruation. (4) The changes enumerated are doubtless of a purely nervous origin, reflex in nature. The most important practical lesson to be learned from these studies is to avoid the pre-menstrual and menstrual periods in giving test meals for diagnostic purposes.

The Flexor Reflex of the Fingers in Hemiplegia.—JACOBSOHN (*Deut. med. Woch.*, 1908, xxxiv, 1971) refers to the very great value of the

Babinsky reflex in the diagnosis of lesions of the pyramidal tracts, and remarks that little attention has been given to the reflexes of the upper extremity. Those which have thus far been studied have not a value commensurate with the Babinski plantar reflex. Jacobsohn has studied the fingers in hemiplegics and finds a volar flexion of the fingers on the affected side comparable to the dorsal flexion of the toes in such patients. When the volar flexion is very marked, the finger tips are pressed against the palm of the hand. In such cases the patient is able to extend the finger slightly, if at all, since a permanent contracture exists. In other cases the flexion is less marked and often is entirely lacking. The freedom of motion of the fingers and hands is usually directly proportional to the degree of contracture. To elicit the reflex which Jacobsohn has discovered in the fingers of hemiplegics, one proceeds as follows: The examiner stands on the side of the patient which is affected, and the patient's arm rests on the hand of the examiner so that the thumb is on the outer side. One now taps on the lower end of the radius or in its neighborhood, and if the reflex is positive, a definite flexion of the fingers, especially of the terminal phalanges, results. In other cases (negative) the fingers remain extended. Jacobsohn finds the reflex constantly present in typical cases of hemiplegia, both mild and severe, and it is especially helpful in the mild ones. The reflex runs parallel with the Babinski sign in hemiplegia. In some cases of neurasthenia in which all the reflexes are exaggerated, Jacobsohn has found a slight flexion of the finger and hand after percussion of the radius. But this is eliminated when the patient is told to extend the fingers well.

Hysterical Paroxysmal Œdema.—F. H. Edgeworth (*Quart. Jour. Med.*, 1909, ii, 2135) attempts to differentiate from the large and indiscriminate class of cases, sometimes called "angioneurotic œdema," a group which is of hysterical origin and which is characterized by the repeated occurrence of transitory œdema affecting "geometrical" or segmental areas of the body surface, associated in some cases with disturbance of sensation, hysterical in type. Edgeworth reports several such cases in which were presented the features of a subcutaneous œdema of fairly sudden onset, the whole area becoming affected uniformly at the same time; the surface of the skin was generally natural in color, but in some instances was hyperemic or white and cold or purplish; the œdema at its height was firm and non-pitting, later during subsidence it became softer; the edge was always abrupt. There was no pain, only a mechanical inconvenience, and the duration was usually from eight hours to two days. The areas corresponded to the natural divisions of the body, *e. g.*, the mammal, or with areas covered by articles of clothing, stockings, socks, gloves, etc., that is, with the areas called "geometrical" or segmental by writers on hysterical phenomena. There were some sensory disturbances. This condition must be differentiated from the hysterical chronic œdema of Sydenham and Charcot and the angio-neurotic œdema so well described by Milton, Quincke, and Osler. But by careful attention to the "geometrical" type of the area affected, the abrupt edge, the disturbances in sensation, lack of gastro-intestinal crises, or the presence of other visceral manifestations, Edgeworth suggests that cases of paroxysmal œdema may be divided into two categories—those of Quincke's œdema (angioneurotic œdema) and those of hysterical origin. The former are allied to Henoch's erythema, the latter to hysterical chronic œdema. The former are probably due to some blood change and the latter to some disturbance in the central nervous system.

Hemoglobin Estimation and the Functional Value of the Hemoglobin.—OERUM (*Deut. med. Woch.*, 1908, xxxiv, 1225) has made comparative studies of the hemoglobin of normal individuals in Berne, Switzerland, and in Copenhagen. In his studies he has used the same Sahli standard tube and compared the results obtained with the von Fleischl-Miescher instrument. In Berne he found that twenty men between the ages of nineteen and twenty-two years had an average hemolgobin of 80.7 per cent. (Sahli). Reckoned in coloring matter for 100 c.c. of blood, this equals 13.8 per cent. hemoglobin. In Copenhagen the average of thirty students was 99.6 per cent. (Sahli). Thus there is a marked difference in values in Switzerland and Denmark with the same Sahli tube. But the Miescher apparatus gave equal readings in both cities. The difference is to be explained by the difference in elevation above the sea. By comparing the readings obtained with the Sahli and Haldane instruments Oerum finds that a given quantity of hemoglobin may show greatly varying powers for absorption of carbon monoxide. Therefore, while the color intensity of the blood of normal individuals in both Berne and Copenhagen is alike, the hemoglobin content of the bloods is different. Comparing the results obtained with Sahli and Haldane's instruments, Oerum reckons the so-called functional value of the hemoglobin, to which he attaches considerable importance.

The Pathogenesis of Ochronosis.—GROSS and ALLARD (*Arch. f. exp. Path. u. Pharm.*, 1908, lxiv, 284) have studied ochronosis experimentally in connection with a case of ochronosis and alkaptonuria which they have observed recently. From the frequent association of the two conditions they assume that homogentisinic acid bore a direct relationship to both. They were, however, unable to extract this acid from cartilage or any other tissue. By placing pieces of cartilage from dogs and calves obtained immediately after death in homogentisinic acid solutions (1 to 10 per cent.), and keeping this at room temperature three to six weeks with chloroform to prevent decomposition, they found the characteristic color changes of ochronosis produced in the cartilage. At first a grayish color appeared on the surface, which gradually increased in intensity and penetrated to a greater depth, until finally the cartilage was deep black. Microscopically, the cartilage was similar to that obtained from patients with ochronosis. Connective tissue which was attached to the cartilage remained uncolored.

The Treatment of Chorea by the Intraspinal Injections of Magnesium Sulphate.—G. MARINESCO (*Sem. méd.*, 1908, xxviii, 553) notes that the beneficial effects in tetanus from the injection of magnesium sulphate reported in the literature led him to use the same in cases of severe chorea, with very beneficial results. The duration of the disease was markedly lessened and there has been no return of the trouble since the treatment.

The injection was 3.5 c.c. of a 25 per cent. solution; the patients were girls between twelve and twenty-two years of age. The sedative action of the drug was noticed a few hours after injection, the symptoms quickly subsided, subsequent injections being required only a few times. The slight untoward effects noted quickly subsided, and no serious results followed. The headaches and pains can be best overcome by a small preliminary dose of morphine. Marinesco says that the best solution for injection is an isotonic one with the freezing point at 0.56, and he is convinced that this method will be very successful in certain well-selected cases.

SURGERY.

UNDER THE CHARGE OF

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Operations on Malignant Tumors of the Stomach and Their Final Results.—GOLDSCHWEND (*Archiv f. klin. Chir.*, 1908, lxxxviii, 218) says that 333 cases of benign and malignant diseases of the stomach (chiefly ulcers and cancers), were operated on in the surgical department of the Linz General Hospital in the last twenty years. About two-thirds of these were operated on in the last ten years. Notwithstanding all the efforts that have been made to establish the early diagnosis of cancer of the stomach, it is generally conceded that although it may be suspected frequently it can not be positively diagnosticated. In a large number of cases the tumor is first recognized only when it is too far advanced to permit a radical removal. The total mortality from operation in 179 cases of cancer of the stomach, radical and palliative, was 35 per cent. That for resection and gastro-enterostomy was approximately the same (36 per cent. and 35.5 per cent.). It should be borne in mind, however, that in many cases in which gastro-enterostomy was the operation performed, the very advanced stage of the disease influenced the mortality very unfavorably. The average duration of life (recurrence) was fifteen months and twenty days. After gastro-enterostomy it was six months and ten days. After resection, 19 (23 per cent.) were discharged cured. 11.4 per cent. of the whole number operated on remained cured (the oldest remaining eight years free of recurrence). Resection by Billroth's second method, with anterior antecolic gastro-enterostomy, gave the best results (mortality, 15 per cent.). In palliative operations, on the contrary, posterior retrocolic gastro-enterostomy is to be preferred. Careful clinical examination of the stomach is necessary in order that the case may be passed over to the surgeon as early as possible. Whenever a carcinoma is suspected an exploratory laparotomy should be done.